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Voluntary C-Sections Result in More Baby Deaths

By NICHOLAS BAKALAR

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A recent study of nearly six million births has found that the risk of death to newborns delivered by voluntary Caesarean section is much higher than previously believed.

Researchers have found that the neonatal mortality rate for Caesarean delivery among low-risk women is 1.77 deaths per 1,000 live births, while the rate for vaginal delivery is 0.62 deaths per 1,000. Their findings were published in this month's issue of *Birth: Issues in Perinatal Care*.

The percentage of Caesarean births in the United States increased to 29.1 percent in 2004 from 20.7 percent in 1996, according to background information in the report.

Mortality in Caesarean deliveries has consistently been about 1½ times that of vaginal delivery, but it had been assumed that the difference was due to the higher risk profile of mothers who undergo the operation.

This study, according to the authors, is the first to examine the risk of Caesarean delivery among low-risk mothers who have no known medical reason for the operation.

Congenital malformations were the leading cause of neonatal death regardless of the type of delivery. But the risk in first Caesarean deliveries persisted even when deaths from congenital malformation were excluded from the calculation.

Intrauterine hypoxia — lack of oxygen — can be both a reason for performing a Caesarean section and a cause of death, but even eliminating those deaths left a neonatal mortality rate for Caesarean deliveries in the cases studied at more than twice that for vaginal births.

“Neonatal deaths are rare for low-risk women — on the order of about one death per 1,000 live births — but even after we adjusted for socioeconomic and medical risk factors, the difference persisted,” said Marian F. MacDorman, a statistician with the Centers for Disease Control and Prevention and the lead author of the study.

“This is nothing to get people really alarmed, but it is of concern given that we're seeing a rapid increase in Caesarean births to women with no risks,” Dr. MacDorman said.

Part of the reason for the increased mortality may be that labor, unpleasant as it sometimes is for the mother, is beneficial to the baby in releasing hormones that promote healthy lung function. The physical compression of the baby during labor is also useful in removing fluid from the lungs and helping the baby prepare to breathe air.

The researchers suggest that other risks of Caesarean delivery, like possible cuts to the baby during the operation or delayed establishment of breast-feeding, may also contribute to the increased death rate.

The study included 5,762,037 live births and 11,897 infant deaths in the United States from 1998 through 2001, a sample large enough to draw statistically significant conclusions even though neonatal death is a rare event.

There were 311,927 Caesarean deliveries among low-risk women in the analysis.

The authors acknowledge that the study has certain limitations, including concerns about the accuracy of medical information reported on birth certificates.

That data is highly reliable for information like method of delivery and birth weight, but may underreport individual medical risk factors.

It is possible, though unlikely, that the Caesarean birth group was inherently at higher risk, the authors said.

Dr. Michael H. Malloy, a co-author of the article and a professor of pediatrics at the University of Texas Medical Branch at Galveston, said that doctors might want to consider these findings in advising their patients.

“Despite attempts to control for a number of factors that might have accounted for a greater risk in mortality associated with C-sections, we continued to observe enough risk to prompt concern,” he said.

“When obstetricians review this information, perhaps it will promote greater discussion within the obstetrical community about the pros and cons of offering C-sections for convenience and promote more research into understanding why this increased risk persists.”

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Infant and Neonatal Mortality for Primary Cesarean and Vaginal Births to Women with "No Indicated Risk," United States, 1998–2001 Birth Cohorts Marian F. MacDorman, PhD, Eugene Declercq, PhD, Fay Menacker, DrPH, CPNP¹, and Michael H. Malloy, MD, MS

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ABSTRACT: Background: *The percentage of United States' births delivered by cesarean section has increased rapidly in recent years, even for women considered to be at low risk for a cesarean section. The purpose of this paper is to examine infant and neonatal mortality risks associated with primary cesarean section compared with vaginal delivery for singleton full-term (37–41 weeks' gestation) women with no indicated medical risks or complications. Methods:* National linked birth and infant death data for the 1998–2001 birth cohorts (5,762,037 live births and 11,897 infant deaths) were analyzed to assess the risk of infant and neonatal mortality for women with no indicated risk by method of delivery and cause of death. Multivariable logistic regression was used to model neonatal survival probabilities as a function of delivery method, and sociodemographic and medical risk factors. **Results:** Neonatal mortality rates were higher among infants delivered by cesarean section (1.77 per 1,000 live births) than for those delivered vaginally (0.62). The magnitude of this difference was reduced only moderately on statistical adjustment for demographic and medical factors, and when deaths due to congenital malformations and events with Apgar scores less than 4 were excluded. The cesarean/vaginal mortality differential was widespread, and not confined to a few causes of death. **Conclusions:** Understanding the causes of these differentials is important, given the rapid growth in the number of primary cesareans without a reported medical indication. (*BIRTH* 33:3 September 2006)